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10/660,143

09/11/2003

Steven W. Githens

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IBM CORPORATION, INTELLECTUAL PROPERTY LAW

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ROCHESTER, MN 55901-7829

EXAMINER

NUNEZ, JORDANY

ART UNIT

PAPER NUMBER

2175

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/660,143

Applicant(s)

GITHENS ET AL.

Examiner

Jordany Núñez

Art Unit

2175

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 7-9, 11-17, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (US20020156806, Cox) in view of Baudel (US6928436).

As to claim 1, 2, 11, 19-21:

Cox shows a computer implemented method of generating a graphical representation of data, comprising:

receiving abstract attributes values comprising at least a selection of a requested graphical representation type (page 7, paragraph [0065],) for a selected data set (page 7, paragraph [0062]);

providing and selecting an abstract data structure template (e.g., Bar Chart view object) from a plurality of abstract data structure templates (e.g., dynamic tables, text objects) (abstract), each being specific to a different graphical representation type and defining a plurality of template attributes for generically representing an abstract graphical representation in the respective different graphical representation type, wherein the selected abstract data structure template is specific to the selected graphical representation type (page 7, paragraph [0072], lines 19-23);

generating, on the basis of the received abstract attributes values and the selected abstract data structure template, an abstract data structure defining a plurality of abstract attributes abstractly representing the data set in the graphical representation (figure 5, element 510, and corresponding text);

retrieving and providing transformation rules for transforming the abstract data structure into a concrete data structure, the transformation rules comprising a plurality of subsets of transformation rules each subset describing graphical attributes of a requested graphical representation type (page 5, paragraph [0044], lines 12-23);

selecting a subset of the plurality of subsets of transformation rules in accordance with a requested, graphical representation type (page 5, paragraph [0044], lines 12-23); an

selecting transformation rules (e.g., interaction desired programmed by author) for transforming the abstract data structure into a concrete data structure from a plurality of transformation rules, the transformation rules describing graphical attributes of the requested graphical representation type (page 5, paragraph [0044], lines 12-23);

and generating, on the basis of the abstract data structure and the selected subset of transformation, a concrete data structure defining a concrete graphical representation in a graphics rendering language using the transformation rules; wherein generating the concrete data structure is done by operation of a computer processor (figure 8, and corresponding description); and

transforming the abstract data structure into a plurality of concrete data structures, wherein transforming the abstract data structure is done by operation of a computer processor (page 8, paragraph [0080], lines 6-19).

Cox fails to specifically show: the transformation rules being specific to a different graphics rendering language, whereby the transformation rules support a plurality of graphics rendering languages; and transforming the abstract data structure into a plurality of concrete data structures, each concrete data structure corresponding to a different graphics rendering language.

In the same field of invention, Baudel teaches: a method for graphically rendering information of a database. Baudel further teaches: a visualization of information stored in a database (col. 1, l. 7-13), a visualization of a data table being a program that given as input any instance of a data table, outputs a uniquely defined sequence of graphic language instructions (col. 3, l. 48-50), a graphic language being a set of programming language functions and data types that enable describing images on a computer screen, examples of which OpenGL, Postscript, Java3D (col. 3, lines 22-29), and a DECORATION process setting graphic attributes for each record being drawn, said attributes including certain illumination models described in languages such as OpenGL and Java3D (i.e., because this process sets graphics attributes in languages such as OpenGL and Java3D, the visualization described inherently may be output in those languages).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Cox and Baudel at the time that the invention was made, to have combined the visualization of information stored in a database, a visualization of a data table being a program that given as input any instance of a data table, outputs a uniquely defined sequence of graphic language instructions, a graphic language being a set of programming language functions and data types that enable describing images on a computer screen, examples of which OpenGL, Postscript, Java3D, and a DECORATION process setting graphic attributes for each record being drawn, said attributes including certain illumination models described in languages such as OpenGL and Java3D of Baudel with the method as taught by Cox.

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One would have been motivated to make such combination because a way to provide a simple but flexible user interface for accessing an available visualization would have been obtained and desired, as expressly taught by Baudel (column 1, lines 41-43).

As to claim 3, 13, Cox shows:

The method of claim 2, wherein the requested graphical representation type is one of a bar chart, a line chart, a pie chart, a scatter plot and a combination thereof (figure 8, and corresponding description).

As to claim 4, 14, Cox shows:

The method of claim 2, wherein the plurality of abstract data structure templates is associated with a particular data source of the data (page 7, paragraph [0059]).

As to claim 7, Cox shows:

The method of claim 1, wherein the requested graphical representation type is one of a bar chart, a line chart, a pie chart, a scatter plot and a combination thereof (page 8, paragraph [0079], lines 8-12).

As to claim 8, 16, Cox shows:

The method of claim 1, wherein at least one of the abstract data structure and the concrete data structure is defined in Extensible Markup Language (XML) (page 4, paragraph [0036], lines 4-7, page 10, paragraph [0102], lines 1-8).

As to Claims 9, 17, Baudel shows:

the concrete data structure is defined in a vector-based graphics language (c. 3, l. 26-29) (e.g., OpenGL).

As to claim 12, Cox shows:

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The method of claim 11, further comprising:

rendering the data set, as described in the graphics rendering language (e.g., java applets), in a graphic (figure 8, and corresponding description).

As to claim 15, Cox shows:

The method of claim 11, wherein generating the concrete data structure using the transformation rules comprises:

selecting a subset of the transformation rules in accordance with the requested graphical representation type (page 5, paragraph [0044], lines 12-23);

and generating the concrete data structure using the subset of the transformation rules (page 8, paragraph [0080], lines 6-19).

Claims 10, 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox in view of Baudel, further in view of Koselj et al (US7027056, hereinafter Koselj).

As to Claims 10, 18:

Cox and Baudel show a method substantially as claimed, as specified above.

Cox and Baudel fail to specifically show: the vector-based graphics language is one of Vector Markup Language (VML), Scalable Vector Graphics (SVG), and Hypertext Markup Language (HTML) Image Maps.

In the same field of invention, Koselj teaches: a graphics engine and display driver integrated chip. Koselj further teaches: vector graphics language such as SVG, being used to send data to mobile and small area displays, while vector graphics language such as OpenGL being used for gaming APIs (i.e., SVG and OpenGL are obvious variations of vector graphic languages).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Cox, Baudel, and Koselj at the time that the invention was made, to have combined the vector graphics

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language such as SVG being used to send data to mobile and small area displays, while vector graphics language such as OpenGL being used for gaming APIs of Koselj with the method as taught by Cox and Baudel.

One would have been motivated to make such combination because a way to have small-area displays which have size, weight, and power limitations properly display data would have been obtained and desired, as expressly taught by Koselj (column 1, lines 52-58).

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

Response to Arguments

Applicant's arguments have been fully considered but are not persuasive. Examiner reiterates that references to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention. Applicant argues that:

1) Applicants respectfully submit that the Examiner's argument is flawed, as it fails to explain how the cited portions of Baudel are related to the present claims. In fact, Applicants point out that the Examiner's argument (quoted above from Office Action, page 5) does not even include the imitations at issue. For example, the Examiner argues "a DECORATION process setting graphic attributes for each record being drawn, said attributes including certain illumination models described in languages such as OpenGL and Java3D." However, the Examiner's argument fails to explain how any of these elements of Baudel (i.e., DECORATION process, graphic attributes, illumination models, etc.) can be analogized to the limitations at issue. Further, the Examiner fails to provide any basis or citation for this statement. Applicants respectfully submit that, on this basis alone, the Examiner has not properly established a prima facie case of obviousness (page 13, penultimate paragraph).

Examiner disagrees.

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One of ordinary skill in the art would readily understand how the elements of Baudel could be analogized to the limitations at issue. For example, one of ordinary skill in the art would readily equate Baudel's teachings as follows: 1) the transformation rules (e.g., the transformation from a table of data to a visualization of a table, chart or graph based on said table of data) being specific (e.g., unique) to a different graphic rendering language (e.g., OpenGL, Poscript, Java3D), whereby the transformation rules support a plurality of graphics rendering languages; 2) and transforming the abstract data structure (e.g., table of data) into a plurality of concrete data structures (e.g., visualization of a table, chart, or graph based on said table of data), each concrete data structure (e.g., visualization) corresponding to a different graphics rendering language (e.g., a DECORATION process of said visualization would have unique illumination model attribute which depends to the graphic language used; thus using a different graphic language to produce the visualization would change the visualization).

2) Additionally, Applicants submit that Baudel as a whole fails to teach any of the limitations that the Examiner correctly acknowledges as not being disclosed by Cox. For example, Baudel fails to teach transforming the abstract data structure into a plurality of concrete data structures, each concrete data structure corresponding to a different graphics rendering language, as recited in claim 19. That is, while Baudel coincidentally describes various "graphic languages" (Baudel, col. 3, lines 22-29, as cited by the Examiner), Baudel does not teach any sort of transformation that results in a plurality of data structures that each correspond to a different graphics rendering language. Further, Baudel does not teach any sort of transformation rules, much less providing transformation rules for transforming the abstract data structure into a concrete data structure, the transformation rules comprising a plurality of subsets of transformation rules each subset describing graphical attributes of a requested graphical representation type and being specific to a different graphics rendering language, as recited in claim 1 (page 13, last paragraph).

Examiner disagrees.

As explained above, Baudel explicitly teaches the creating of a visualization of a table form a table of data using graphic language instructions of a programming language such as OpenGL, Poscript,

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and Java3D (col. 3, l. 40-50; col. 1, l. 7-13). One of ordinary skill in the art would readily understand said teaching to be the same as a transformation (e.g., from table of data to visualization of said data) that results in a plurality of data structures (e.g., visualization) that each correspond to a different graphics rendering language (e.g., the visualization, and in particular, the DECORATION process of the visualization, corresponds to the graphics rendering language used). Further, Baudel explicitly teaches transformation rules (e.g., the rules used to transform a table of data into a visualization of said data), transforming the abstract data structure (e.g., table of data) into a concrete data structure (e.g., a visualization). As far as the rest of the limitations in question, it is Cox that is relied upon for the teachings of said limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Dettinger et al.	[U.S. 7085757]
Lennon et al.	[U.S. 20040015783]
Vedula et al.	[U.S. 6823495]
Miyadi	[U.S. 7009609]
Chen et al.	[U.S. 6668354]

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Makita

[U.S. 5611034]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordany Núñez whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Thursday 9am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on (571)272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
12/10/2008

/WILLIAM L. BASHORE/
Supervisory Patent Examiner, Art Unit 2175